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**UNITED STATES DEPARTMENT OF COMMERCE**  
**Patent and Trademark Office**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/235,112	01/21/99	CELLIER	A PD-980179

020991 PM82/0607  
HUGHES ELECTRONICS CORPORATION  
PATENT DOCKET ADMINISTRATION  
BLDG 001 M/S A109  
P O BOX 956  
EL SEGUNDO CA 90245-0956

EXAMINER

LOUIS JACQUES, J

ART UNIT	PAPER NUMBER
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3661

DATE MAILED: 06/07/00

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.

09/235,112

Applicant(s)

CELLIER, ALFRED

Examiner

Jacques H. Louis-Jacques

Art Unit

3661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

## Status

- 1) ☒ Responsive to communication(s) filed on 21 January 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some \* c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☐ received.
2. ☐ received in Application No. (Series Code / Serial Number) \_\_\_\_\_.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

## Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,3,4.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Turner [5,326,054].

Turner discloses an apogee at constant time-of-day equatorial (ACE) orbit. According to Turner, there is provided at least one service area on the earth at predetermined elevation angle from the horizon. One or more satellites orbiting the earth having sky track(s) when viewed from the service area. Turner further discloses at least one operating or orbit arc, wherein the one or more satellites are orbiting or operating on the at least one operating or orbiting arc. According to turner, unlike the prior art system, such as the Russia Molniya, these satellites usually operate in orbits with eccentricities of approximately 0.7 and periods of just under twelve hours. The ACE orbit according to Turner has an eccentric of 0.23 (between 0.1 and 0.5). FIG. 11 shows an angular separation of an ACE orbit apogee from the geostationary arc as a function of ground terminal latitude. The elevation look angle from the earth location is greater than 10 degree. The orbital track (s) according to turner has an apogee and a perigee, wherein the apogee is over the service area. Although Turner does not specifically disclose the limitations in the manner as claimed, it would have been obvious to one skilled in

the art at the time of the invention to be motivated to modify the ACE orbit of Turner because such modification will provide useful and effective communications.

3. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Castiel et al [5,845,206].

Castiel et al discloses an elliptical satellite system, which emulates the characteristics of geosynchronous satellites. The satellite orbits a height above the earth. The satellite orbit has an apogee and a perigee, wherein the apogee is above a ground service area. Each ground station on the earth communicates with a satellite with a predetermined position of its apogee, and hence that satellite appears to the ground station to hover over the earth. Castiel et al discloses a plurality of satellites in orbits circling the earth, each satellite having an orbital and communicating with a ground station. The satellites orbiting in elliptical orbits having apogees and perigees and having ground tracks. The elevation angle according to Castiel et al is greater than 60 degree ( $80^{\circ}$ - $90^{\circ}$ ). The orbits according to Castiel have an eccentric between 0.1 and 0.5. There is provided a switch for switch between a first satellite and a second satellite (see columns 6, 10). Castiel et al does not specifically disclose the limitations as claimed. However, it would have been obvious to one skilled in the art at the time of the invention to be motivated to modify the elliptical satellite system of Castiel because such modification will improve satellite communications.

*Conclusion*

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

5,561,837	Muller et al	Oct. 1996
5,738,309	Fowell	Apr. 1998
5,788,187	Castiel et al	Aug. 1998
5,957,409	Castiel et al	Sep. 1999
5,971,324	Williams et al	Oct. 1999

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacques H. Louis-Jacques whose telephone number is (703) 305-9757. The examiner can normally be reached on M-Th, 8:30 AM - 5:00 PM .

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Cuchlinski can be reached on (703) 308-3873. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-8623 for regular communications and (703) 308-8623 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1111.

Jacques H. Louis-Jacques  
Primary Examiner  
Art Unit 3661

/jlj  
June 5, 2000

*Jacques H. Louis-Jacques*  
JACQUES H. LOUIS-JACQUES  
PRIMARY EXAMINER